

FACILITY PERMIT TO OPERATE LA CO. SANITATION DIST

PERMIT TO CONSTRUCT/OPERATE

**Permit No.
A/N 467057**

Equipment Description:

COGENERATION SYSTEM NO.1 CONSISTING OF:

1. THREE (3) FUEL GAS COMPRESSORS, 1000 HP EACH, WITH A GAS CHILLER, KNOCKOUT DRUM, AND RE-HEATER, COMMON TO GAS TURBINE 2 AND 3.
2. GAS TURBINE NO.1, SOLAR. MODEL MARS 90-13000, 113 MMBTU/HOUR. DIGESTER GAS AND NATURAL GAS FIRED, WITH WATER INJECTION SYSTEM, DRIVING A 9.9 MEGAWATT ELECTRIC GENERATOR.
3. WASTE HEAT RECOVERY BOILER NO. 1. EXPRESS INTEGRATED TECHNOLOGIES, UNFIRED, WATER-TUBE TYPE, 33,744 POUNDS/HOUR OF 460 PSI STEAM OUTPUT.
4. STEAM TURBINE GENERATOR, SHIN-NIPPON, 8700 KILOWATT, WITH ASSOCIATED PUMPS, FEED WATER HEATERS, AND CONDENSER, COMMON TO COGENERATION SYSTEM NO. 2 AND 3.

Conditions:

- 1) CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]
- 2) THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
- 3) THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THIS EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]
- 4) THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS THE WATER INJECTION SYSTEM IS INSTALLED AND OPERATING, EXCEPT DURING STARTUP AND SHUTDOWN PERIODS.
[RULE 1303(a)(1)]

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- 5) THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT ANNUAL PERFORMANCE TESTS IN ACCORDANCE WITH THE SCAQMD APPROVED TEST PROCEDURES AND FURNISH THE SCAQMD WITH THE WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

- A. HEAT INPUT RATE (CALCULATED)
- B. POWER OUTPUT (MEASURED)
- C. EXHAUST FLOW RATE (CALCULATED)
- D. CARBON MONOXIDE (EXHAUST ONLY)
- E. OXIDES OF NITROGEN (EXHAUST ONLY)
- F. OXYGEN (EXHAUST ONLY)

THE REPORT SHALL PRESENT THE EMISSION DATA IN PARTS PER MILLION VOLUME ON DRY BASIS AT 15% OXYGEN, AND IN POUNDS PER HOUR.

[RULE 1134]

- 6) THE DIGESTER GAS AND NATURAL GAS FLOW RATES TO THE TURBINE SHALL BE CONTINUOUSLY MONITORED AND RECORDED ON A DAILY BASIS.

[RULE 1134]

- 7) THE GASEOUS FUEL SUPPLIED TO THIS TURBINE SHALL CONTAIN, AT MINIMUM, 60% DIGESTER GAS BY VOLUME AVERAGED OVER 24 HOURS PERIOD.

[RULE 1134]

- 8) THE TOTAL HEAT INPUT TO THIS TURBINE SHALL NOT EXCEED 113 MMBTU/HOUR.

[RULE 1303(b)(1)][RULE 1303(b)(2)]

- 9) THE EMISSIONS OF CRITERIA POLLUTANTS FROM THIS TURBINE SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/HOUR
ROG (AS CARBON)	4.5
NOX (AS NO ₂)	12.0
SOX (AS SO ₂)	1.3
CO	16.3
PM	5.7

[RULE 1303(b)(1)][RULE 1303(b)(2)]

- 10) A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) SHALL BE MAINTAINED TO MEASURE THE EXHAUST FOR NOX AND O₂ CONCENTRATIONS. THE CEMS SHALL CONTINUOUSLY CORRECT AND RECORD THE NOX CONCENTRATIONS TO 15% OXYGEN ON DRY BASIS.

[RULE 1134]

- 11) THE OPERATOR SHALL KEEP RECORDS OF TO DEMONSTRATE COMPLIANCE WITH REQUIREMENTS OF THE CONDITIONS OF THIS PERMIT AND SUCH RECORDS SHALL BE KEPT FOR AT LEAST FIVE (5) YEARS AND MADE AVAILABLE TO THE AQMD PERSONNEL UPON REQUEST.

[RULE 204]

FACILITY PERMIT TO OPERATE LA CO. SANITATION DIST

Periodic Monitoring:

- 12) THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE ROG, PM, AND SOX EMISSION LIMITS IN CONDITION 8 BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING AQMD-APPROVED TEST METHODS. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER MAXIMUM ATTAINABLE CONDITIONS TO DEMONSTRATE COMPLIANCE. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. THE TESTS CONDUCTED UNDER CONDITION 4 OR ANY OTHER TESTS REQUIRED BY AQMD RULES, AND THEIR RESULTS, MAY BE USED TO SATISFY THE APPLICABLE REQUIREMENTS OF THIS CONDITION.
[RULE 3004 (a)(4)]

Emissions And Requirements:

- 13) THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPM, RULE 407
CO: 130 PPMV, RULE 1303(a)(1)
NOX: 25 PPMV, RULE 1134, 1303(a)(1)
NOX: 89.8 PPMV, 40 CFR SUBPART GG
PM: 0.1 GRAIN/SCF, RULE 409
SOX: 500 PPMV, RULE 409

FACILITY PERMIT TO OPERATE LA CO. SANITATION DIST

PERMIT TO CONSTRUCT/OPERATE

**Permit No.
A/N 467059**

Equipment Description:

COGENERATION SYSTEM NO.2 CONSISTING OF:

1. THREE (3) FUEL GAS COMPRESSORS, 1000 HP EACH, WITH A GAS CHILLER, KNOCKOUT DRUM, AND RE-HEATER, COMMON TO GAS TURBINE 2 AND 3.
2. GAS TURBINE NO.1, SOLAR. MODEL MARS 90-13000, 113 MMBTU/HOUR, DIGESTER GAS AND NATURAL GAS FIRED, WITH WATER INJECTION SYSTEM, DRIVING A 9.9 MEGAWATT ELECTRIC GENERATOR.
3. WASTE HEAT RECOVERY BOILER NO. 2 EXPRESS INTEGRATED TECHNOLOGIES, UNFIRED. WATER-TUBE TYPE, 33,744 POUNDS/HOUR OF 460 PSI STEAM OUTPUT.
4. STEAM TURBINE GENERATOR, SHIN-NIPPON, 8700 KILOWATT, WITH ASSOCIATED PUMPS, FEED WATER HEATERS, AND CONDENSER, COMMON TO COGENERATION SYSTEM NO. 1 AND 3.

Conditions:

- 1) CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]
- 2) THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
- 3) THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THIS EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]
- 4) THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS THE WATER INJECTION SYSTEM IS INSTALLED AND OPERATING, EXCEPT DURING STARTUP AND SHUTDOWN PERIODS.
[RULE 1303(a)(1)]

FACILITY PERMIT TO OPERATE LA CO. SANITATION DIST

- 5) THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT ANNUAL PERFORMANCE TESTS IN ACCORDANCE WITH THE SCAQMD APPROVED TEST PROCEDURES AND FURNISH THE SCAQMD WITH THE WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

- A. HEAT INPUT RATE (CALCULATED)
- B. POWER OUTPUT (MEASURED)
- C. EXHAUST FLOW RATE (CALCULATED)
- D. CARBON MONOXIDE (EXHAUST ONLY)
- E. OXIDES OF NITROGEN (EXHAUST ONLY)
- F. OXYGEN (EXHAUST ONLY)

THE REPORT SHALL PRESENT THE EMISSION DATA IN PARTS PER MILLION VOLUME ON DRY BASIS AT 15% OXYGEN, AND IN POUNDS PER HOUR.
[RULE 1134]

- 6) THE DIGESTER GAS AND NATURAL GAS FLOW RATES TO THE TURBINE SHALL BE CONTINUOUSLY MONITORED AND RECORDED ON A DAILY BASIS.
[RULE 1134]

- 7) THE GASEOUS FUEL SUPPLIED TO THIS TURBINE SHALL CONTAIN, AT MINIMUM, 60% DIGESTER GAS BY VOLUME AVERAGED OVER 24 HOURS PERIOD.
[RULE 1134]

- 8) THE TOTAL HEAT INPUT TO THIS TURBINE SHALL NOT EXCEED 113 MMBTU/HOUR.
[RULE 1303(b)(1)][RULE 1303(b)(2)]

- 9) THE EMISSIONS OF CRITERIA POLLUTANTS FROM THIS TURBINE SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/HOUR
ROG (AS CARBON)	4.5
NOX (AS NO2)	12.0
SOX (AS SO2)	1.3
CO	16.3
PM	5.7

[RULE 1303(b)(1)][RULE 1303(b)(2)]

- 10) A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) SHALL BE MAINTAINED TO MEASURE THE EXHAUST FOR NOX AND O2 CONCENTRATIONS. THE CEMS SHALL CONTINUOUSLY CORRECT AND RECORD THE NOX CONCENTRATIONS TO 15% OXYGEN ON DRY BASIS.
[RULE 1134]

- 11) THE OPERATOR SHALL KEEP RECORDS OF TO DEMONSTRATE COMPLIANCE WITH REQUIREMENTS OF THE CONDITIONS OF THIS PERMIT AND SUCH RECORDS SHALL BE KEPT FOR AT LEAST FIVE (5) YEARS AND MADE AVAILABLE TO THE AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE LA CO. SANITATION DIST

Periodic Monitoring:

- 12) THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE ROG, PM, AND SOX EMISSION LIMITS IN CONDITION 8 BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING AQMD-APPROVED TEST METHODS. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER MAXIMUM ATTAINABLE CONDITIONS TO DEMONSTRATE COMPLIANCE. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. THE TESTS CONDUCTED UNDER CONDITION 4 OR ANY OTHER TESTS REQUIRED BY AQMD RULES, AND THEIR RESULTS, MAY BE USED TO SATISFY THE APPLICABLE REQUIREMENTS OF THIS CONDITION.
[RULE 3004 (a)(4)]

Emissions And Requirements:

- 13) THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
- CO: 2000 PPM, RULE 407
 - CO: 130 PPMV, RULE 1303(a)(1)
 - NOX: 25 PPMV, RULE 1134, 1303(a)(1)
 - NOX: 89.8 PPMV, 40 CFR SUBPART GG
 - PM: 0.1 GRAIN/SCF, RULE 409
 - SOX: 500 PPMV, RULE 409

FACILITY PERMIT TO OPERATE LA CO. SANITATION DIST

PERMIT TO CONSTRUCT/OPERATE

**Permit No.
A/N 467060**

Equipment Description:

COGENERATION SYSTEM NO. 3 CONSISTING OF:

1. THREE (3) FUEL GAS COMPRESSORS, 1000 HP EACH, WITH A GAS CHILLER, KNOCKOUT DRUM, AND RE-HEATER, COMMON TO GAS TURBINE 2 AND 3.
2. GAS TURBINE NO.1, SOLAR. MODEL MARS 90-13000, 113 MMBTU/HOUR. DIGESTER GAS AND NATURAL GAS FIRED, WITH WATER INJECTION SYSTEM, DRIVING A 9.9 MEGAWATT ELECTRIC GENERATOR.
3. WASTE HEAT RECOVERY BOILER NO. 3 EXPRESS INTEGRATED TECHNOLOGIES, UNFIRED, WATER-TUBE TYPE, 33,744 POUNDS/HOUR OF 460 PSI STEAM OUTPUT.
4. STEAM TURBINE GENERATOR, SHIN-NIPPON, 8700 KILOWATT, WITH ASSOCIATED PUMPS, FEED WATER HEATERS, AND CONDENSER, COMMON TO COGENERATION SYSTEM NO. 1 AND 2.

Conditions:

- 1) CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]
- 2) THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
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- 3) THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THIS EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]
- 4) THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS THE WATER INJECTION SYSTEM IS INSTALLED AND OPERATING, EXCEPT DURING STARTUP AND SHUTDOWN PERIODS.
[RULE 1303(a)(1)]

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- 5) THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT ANNUAL PERFORMANCE TESTS IN ACCORDANCE WITH THE SCAQMD APPROVED TEST PROCEDURES AND FURNISH THE SCAQMD WITH THE WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

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- 7) THE GASEOUS FUEL SUPPLIED TO THIS TURBINE SHALL CONTAIN, AT MINIMUM, 60% DIGESTER GAS BY VOLUME AVERAGED OVER 24 HOURS PERIOD.
 [RULE 1134]
- 8) THE TOTAL HEAT INPUT TO THIS TURBINE SHALL NOT EXCEED 113 MMBTU/HOUR.
 [RULE 1303(b)(1)][RULE 1303(b)(2)]
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[RULE 1303(b)(1)][RULE 1303(b)(2)]

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[RULE 3004 (a)(4)]

Emissions And Requirements:

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NOX: 89.8 PPMV, 40 CFR SUBPART GG
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